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ABSTRACT

This paper describes "Microcomputer Applications for Educators," a course at Fontbonne College for pre-service teachers which introduces the educational applications of the computer and related technologies. The course introduces students to the Macintosh computer, its operating system, Claris Works 4.0, and various other educational and personal software packages, and provides students with the knowledge and skills of how to use the Internet as a teaching and research tool. Each week, students investigate two topics on the Web, one on general educational technology, and the other dealing with multiculturalism and/or diversity. Students provide an Internet address, summary of the site, and a rating on content, organization, and aesthetics for each topic they research. The class web page contains Internet addresses related to each of the Internet topics for students to look at for more information. The multicultural/diversity sites and their descriptions are listed on the college's web page, and information is sent to principals in the area telling them about the list. Student evaluation in the class is also discussed. (SWC)

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An On-line Microcomputer Course for Pre-service Teachers

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ED 410 912

Introduction:

No matter what the course description says and course objectives state we want to teach our future teachers all they will need to know about using technology in the classroom and do it all in one three-hour course! Impossible? Certainly, but there are teaching schemes that will at least maximize what a student can learn in such a short time period. Putting much of the material for our college's required computer course for educators on-line is one such scheme.

Education majors at Fontbonne College register for the course, CS 103, Microcomputer Applications for Educators. In fall, 1996, much of the material for this course was put on-line for the first time. Between fall, 1996, and spring, 1997, revisions were made based on feedback and experience from the fall semester. In fall the class met one day per week for three hours; in spring, 1997, it is meeting two days per week, Monday and Wednesday mornings. The address for this course is: **http://www.fontbonne.edu/cs103.html**.

Course Description:

This course introduces future teachers to educational applications of the computer and related technologies. It introduces them to the Macintosh computer, its operating system, ClarisWorks 4.0 and various educational and personal software packages for the Macintosh. It also provides them with the knowledge and skills of how to use the Internet as a teaching and research tool. By learning to use Netscape, students will have access to electronic course content as well as dynamic links to the variety of educational resources currently being developed on the Internet.

Course Objectives:

The student will:

- Develop specific word processing skills on the Macintosh using Claris Works 4.0
- Create and manipulate graphics within the Claris Works environment
- Create, manipulate and report using the Claris Works data base
- Produce functional spreadsheets using Claris Works
- Create slide shows using Claris Works
- Learn to integrate the various applications of Claris Works
- Explore the Internet and experience its breadth and depth while discovering the wealth of educational resources available on the Web

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Study controversial topics related to educational technology, such as issues related to privacy, ethical uses of technology and copyrights

Student Background:

Most of the students in CS 103 have a sparse computer background. Some have had experience using a word processor. Few have worked with databases, spreadsheets and the Internet. Only one student out of 20 during the spring, 1997, semester owns a computer. The others use Fontbonne College's computer facilities. A majority of the students are elementary education and special education majors, while some are deaf education majors.

Initial Weeks of the Course:

Since most of the students have not had experience using the Internet, the course description, syllabus, and requirements are handed out in a printed version at the beginning of the course. The first two-three weeks of class are spent introducing them to the Macintosh operating system and familiarizing them with the Claris Works 4.0 Word Processor. Following these initial weeks, the class receives an introduction to the Internet and World Wide Web. Students learn to navigate the CS 103 Home Page and Fontbonne College's Home Page. Following this introduction they learn how to use Search Engines. Then the class settles into its weekly pattern.

The course requirements include, among other items, World Wide Web themes for the week. Each week students investigate two topics on the Web. One topic is a general educational technology topic, the second topic deals with multiculturalism and/or diversity. These topics were chosen by the instructor, however, students are told that if someone suggests a suitable replacement for one of the topics, changes could easily be made. These are the Internet topics:

	General:	Diversity topics:
1.	Assistive Technologies	Holidays (other than Christmas, etc)
2.	Apple/Macintosh	Famous People of different races, especially women
3.	Professional Organizations Journal	Folk and / or Fairy Tales
4.	AUPs	Religions and Religious Customs
5.	Legal, Ethical Issues	Multiculturalism in Literature
6.	Lesson Plans	Art / Music
7.	Educational Resources	Entertainment: TV, Film, Theatre
8.	Museums, Libraries	Environmental Issues
9.	Government Agencies	Education: Gifted, Special Adult, Home Schooling
10.	Netiquette, key Pal Projects	Family Life
11.	Homework Help/Hotlines	Racism, Crime

General Description of the Course:

Each Monday students are required to submit a form with two Internet addresses on it. I call this form the "short" form. One Internet address relates to the general World Wide Web topic; the second address is the one related to diversity. This form contains the student's name, the URL of the site, the site's title and the topic of the day along with a 10-15 word description of the site.

After submitting this form, students are encouraged to discuss and expound on anything they found particularly interesting. When the instructor thinks a topic is of particular importance, she insists that each student contribute to the conversation. After six weeks (twice per semester) students hand in an Internet Portfolio. The portfolio contains, in a more lengthy format, a summary of the Internet sites the students have visited during the past six weeks. Each site must have a more detailed description than on the short form. Once again, the Internet topic, the site's title and the URL must be listed. Also, the student must rate the site on Content, Organization and Aesthetics. Along with their rating they must give a brief description of each area. Students are provided with examples by the instructor. In addition, the first page of the site must be printed and submitted along with the above information.

Following the Internet discussion, students receive instructions on how to construct and use spreadsheets or databases in Claris Works, how to prepare Power Point presentations, how to create slide shows in Claris Works, how to create Draw documents in Claris Works. At times during the semester software demonstrations are given that the instructor thinks are of particular interest to the current students.

At the beginning of the class on Wednesdays, time is set aside for the "term" or "terms for the day". The instructor has chosen certain terms that she thinks the student must know as a result of taking the CS 103 course. The terms are categorized into general technology terms and Internet terms. For instance, some general technology terms included in this list are: RAM, virus, cache and motherboard; some Internet terms are: Domain Name, baud rate, flame and ftp. Prior to the week in which a specified term is discussed (More than one term per day is usually presented. Some times up to five or six may be presented if the terms "fit" together, such as RAM and ROM.) students are asked to write down the context in which they saw the term while investigating other topics on the Internet or while reading other educational materials dealing with technology. When it is time to define a term, students are asked to define it from what they have read. In case no one comes up with a suitable definition, the instructor has an acceptable definition ready to be shown on an overhead.

Following the "term" or "terms for the day" part of the class, students continue as they do on Mondays with the above list of topics or skills.

Internet Topics:

On the CS 103 page, there are addresses that the student can investigate pertinent to each assigned Internet topic. For instance, one topic the students investigate is Professional Organizations and/or Journals. URLs for professional organizations such as ISTE and AACE, among others, are listed. Students learn more about each of organizations from their web page. However, students are

encouraged to determine if a professional organization in their field is on the web instead of using the sites suggested by the instructor. If a student finds such a site, he/she is encouraged to use this site for his/her Internet site of the week.

At the end of the semester students will be offered the opportunity to purchase a bound version of all the Internet sites visited by the students in the class. This bound version will include the students' evaluations of the sites.

The diversity/multicultural sites will be listed on Fontbonne's web page along with the students' descriptions. Information will be sent to principals in the St. Louis area telling them about this list of sites prepared especially for them and their teachers who would like to have web addresses that specifically deal with diversity issues.

Main Part of the CS 103 Home Page:

After clicking on Course Content from the CS 103 web page, students arrive at the Course Content page. The subtitles under the CS 103 Course Content page (address:**http://www.fontbonne.edu/Content.html**) are:

Claris Works and The Macintosh environment
The Internet
Hardware and Software
Legal and Ethical Issues in Educational Computing
Assistive Technologies for Special Education, Deaf Education, etc
Professional Organizations and Journals
Multicultural and Diversity Issues in Education

This page provides the overriding outline for the course. Since the course is offered on the Macintosh platform and uses Claris Works to teach an integrated package, the instructor wants the students to be aware of some of the Claris Works sites, such as the Claris Web Page and pages devoted to Claris Works FAQs, as well as Apple sites such as Apple Support and Apple World Wide Web Sites.

The page containing the most information and links is **http://www.fontbonne.edu/internet.html**. This page contains 11 links to topics relative to the Internet. These links are:

History of the Internet
The Internet Tourbus
An Educator's Guide to the Internet in the Classroom
Take a tour of the Internet
The World Wide Web (WWW) - not so technical background
Libraries, Museums and Other Agencies on the Internet
Search Engines on the Internet
Educational Resources on the Internet
Sources of Lesson Plans on the Internet
Ask Dr. Internet
Government Agencies on the Internet

The Hardware and Software Page contains addresses of some of the major hardware and software manufacturers.

On the Legal and Ethical Issues page these topics are presented: Equal Access, Privacy Issues, Acceptable Use Policies, Computer Crime, Hackers, Software Piracy and Computer Viruses.

The Assistive Technology page contains links to sites for the deaf and hearing impaired, for the blind, for those with dyslexia, plus numerous sites for those with physical handicaps.

Journals listed under Professional Organizations and Journals are: Electronic Learning, The Instructor, TechTrends, Educational Technology and Research Development, Learning and Leading with Technology, Journal of Research on Computing in Education and T.H.E. Journal. Some organizations listed are: ISTE (International Society for Technology in Education), AECT (Association for Educational Communications and Technology), AERA (American Educational Research Association), ISPI (International Society for Performance Improvement), ASTD(American Society for Training and Development), and CCC (Computer Curriculum Corporation).

Evaluation:

In addition to the Internet assignments, students are evaluated on their ability to produce word processing, data base, spreadsheet and draw files. For each Claris Works application the student must create both an administrative and educational application. Their final project consists of using the WWW to obtain information and then using the Claris Works data base to store the information. From the data base the students create, they must demonstrate their ability to integrate data from one application to another. So they must demonstrate that they can copy some of the data into a spreadsheet and use appropriate spreadsheet techniques on the copied data, use mail merge and use the draw tool with either the word processor, data base or spreadsheet. In addition, the students create a 10-15 slide Power Point presentation illustrating something they learned from the Internet.

Conclusion:

Never before have I taught a class that seemed to be so dynamic. After each class, with each new site a student discovers, I make plans to change the CS 103 Home Page for the next semester. I am excited about the amount of knowledge the students seem to obtain for the course presented in the above format and will continue to present it in the same manner for the foreseeable future.